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ABSTRACT

This review of research studies on the psychological adjustment of gifted persons focused on five dimensions: social/behavioral conduct, family adjustment, emotional functioning (personality characteristics, anxiety, depression), social functioning (interpersonal relationships, social skills), and perceived competence (self-concept, self-esteem, locus of control). Among conclusions drawn from the analysis were the following: (1) no significant differences were revealed between gifted and nongifted children on depression, anxiety, or personality characteristics; (2) gifted children possessed adequate social skills, but were at risk for problems in peer relationships; (3) gifted children tended to be less cohesive in groups because many of them desired leadership roles. Methodological problems identified in the studies examined included criteria for giftedness, objectivity of measurement devices, and sample size. A concluding section cites such practical implications for parents, teachers, and administrators as setting realistic expectation levels, attending to the social needs of gifted children, and striving for consistency in parenting and teaching styles. Twenty-five references are appended. (JW)

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Gifted Population and Adjustment: A Literature Review of Giftedness on Conduct, Family Adjustment, Emotional Functioning, Social Functioning and Perceived Competence

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Doctor of Psychology

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by

Mark Stephen Lum

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Gifted Population and Adjustment: A Literature Review of Giftedness on Conduct, Family Adjustment, Emotional Functioning, Social Functioning and Perceived Competence

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Abstract

GIFTED POPULATION AND ADJUSTMENT: A LITERATURE REVIEW OF GIFTEDNESS ON CONDUCT, FAMILY ADJUSTMENT, EMOTIONAL FUNCTIONING, SOCIAL FUNCTIONING AND PERCEIVED COMPETENCE

Mark Stephen Lum

This review examined the empirical research on the psychological adjustment of gifted persons as defined by their superior abilities and achievements. It focused on the following dimension of adjustment: Conduct, Family Adjustment, Emotional Functioning, Social Functioning and Perceived Competence. The author addressed the question of whether or not the gifted population experiences superior adjustment versus maladjustment. Results indicate that gifted people experience neither superior adjustment nor maladjustment. However, gifted individuals may be at risk for certain types of problems. A section on methodological critiques and implications for future research was included; and the implications for parents, educators, teachers and legislators were discussed.

Gifted Population and Adjustment: A Literature Review of Giftedness on Conduct, Family Adjustment, Emotional Functioning, Social Functioning and Perceived Competence

Gifted persons typically excel in academic and achievement. They are considered a unique population. Statistically, gifted persons score at least two standard deviations above the mean on intelligence and achievement measures. Currently, however, there is an active debate on whether or not gifted children show superior psychological adjustment. Protagonists (i.e., Terman, 1925; Gough, 1955; Jacobs, 1971) say that gifted children demonstrate superior adjustment and coping skills. They also suggest that gifted students possess intellectual alertness that allow them to handle complexities, keen observational skills, and a curiosity that increases the motivation and desire of learning. On the other hand, antagonists (i.e., Ross & Parker, 1980; Ferguson, 1981; Dirkes, 1983; Roedell, 1984) suggest that gifted individuals experience significant adjustment problems. They assert that gifted children often demonstrate psychological maladjustment such as anxiety, depression, low self-esteem and role conflicts. They also believe that gifted persons evidence socially immature behavior particularly in the area of peer relationships. Furthermore, they suggest that adjustment problems exist in the family system of gifted children including extra parental worries or inadequacies, parent-child/sibling relationship problems, and sibling rivalries.

As a result of the ambivalence and lack of clarity concerning the needs of gifted, administrators/educators are not attending to the antagonists' arguments. Legislation presently reflects a protagonist view and is not responsive to the advocate view. Currently, legislation in the United States has not required schools to provide special education programs for the gifted. Legislation, thus far, has funded only special education for the

handicapped children (i.e., Public Law 94-142). Although research has demonstrated special needs for the handicapped population, gifted people may also have special needs. The gifted are statistically similar to handicapped children. Both groups are on an extreme end of the continuum for aptitude and achievement. Unfortunately, legislation such as Public Law 94-142 makes no provisions for gifted students. In fact, a recent survey of the Norwalk/La Mirada School District revealed that the Gifted Program was sunsetted because of cutbacks in funding. Because the gifted are not included in legislation, their program tends to be the most expendable.

If the advocate view has substance, then we may be overlooking the special needs of gifted children. The purpose of this review is to examine the empirical literature concerning this debate of superior adjustment versus maladjustment for the gifted population. Since the protagonist and antagonist mainly disagree over personal, social and familial variables, this review will focus on the various age groups of the gifted population over the dimensions of Conduct, Family Adjustment, Emotional Functioning, Social Adjustment, and Perceived Competence. The review will also critique methodological issues in this research area and will discuss the implications of these findings for future research and legislation.

The parameters of the literature review include the empirical research over the past five years. A computer search using the descriptors of Overachievement, Gifted, High Achievement, High Academic Achievement, Underachievement, Adjustment, Parent Aspiration, Adjustment, Social Adjustment, and Emotional Adjustment enlisted information from PSYCINFO and ERIC database. A manual search through the journals of Developmental Psychology, Child Development Psychology, Journal of Educational Psychology, Journal of School Psychology, and School Psychology Review was also

included.

Empirical Literature Review

Conduct

Studies on conduct, as measured by objective behavioral rating scales, seemed to indicate that gifted and nongifted children were similar in behavioral adjustment. Kitano (1985) assessed gifted children's cognitive and individual development through watching their behaviors in comparison to nongifted children. Kitano found that gifted children demonstrated advanced cognitive skills in specific academic areas; however, they were similar behaviorally. Obrzut, Nelson & Obrzut (1984) also found no significant differences in behavior between gifted and nongifted children.

While previous studies revealed no differences in conduct between gifted and nongifted children, Ludwig & Cullinan (1984) found support for gifted students having better behavioral adjustment than their nongifted peers. The purpose for their study was to compare the personal adjustment of gifted elementary school pupils with their nongifted peers. Ludwig & Cullinan specifically found that gifted elementary students experienced fewer behavior problems than their nongifted classmates.

Family Adjustment

Some researchers have examined the adjustment of the gifted child within their families. The findings generally indicate a positive correlation between giftedness and adjustment. Mathews, West, & Hosie (1986) found positive adjustment for families with gifted children between the grades of 4-6. Their study evaluated interaction patterns in normal, nonclinical families of gifted children compared with families of nongifted children. Their results revealed that families with gifted children were reported to be healthier and more adept at implementing stages of problem solving processes than the families with nongifted

children. The families with gifted children were also healthier than the comparison group on communication and affective responsiveness measures.

Families with gifted children also scored higher than families with nongifted children on behavior control scales. This suggested that these families were less strict and more consistent in their effort to express and maintain standards of behavior. The authors suggested that the literature may be erroneous in assuming that most families of gifted children need treatment.

Cornell (1983) also assessed the adjustment of gifted children by examining the effects of parents' perception and positive labeling on gifted children between the ages of 6 and 11. He hypothesized that problems occurred when parents did not perceive the giftedness in their child. The results indicated that mothers generally perceive their child as gifted while fathers do not. These differences in parental perception were associated with quite different parent-child relationships. For example, recognition of giftedness was associated with parental pride and a close relationship. The results, however, failed to support the protagonists' belief that gifted children were superior in adjustment. In fact, once birth order was controlled for, the Children's Personality Questionnaire (CPQ) showed no differences between gifted and nongifted first-born.

Other researchers have focused on family adjustment by comparing the gifted children to their nongifted siblings. While gifted children appeared to show positive adjustment in their families, the findings suggested that their nongifted siblings may be at risk for family maladjustment. Cornell (1983) discovered that nongifted siblings were less adjusted than their gifted sibling. Ballering & Koch (1984) found that nongifted siblings of gifted children, between the ages of 6 and 16, have more problems in their relationship with their mother than with their gifted sibling. They compared the perceived relationships with all other family members from the perspectives of gifted and nongifted sibling of both sexes.

Ballering & Koch found that there were negative aspects in the relationship between the mother and nongifted sibling and a positive relationship between the nongifted child and his gifted sibling. Concerning sibling relationships and the levels of intelligence hypothesis, the closer the nongifted child's IQ score was to his gifted sibling, the less positive affect existed in the relationship with his gifted sibling. Thus, the relationship between the two siblings showed worse adjustment when the nongifted sibling was closer in intelligence level to the gifted child.

Although Ballering & Koch (1984) found support for the intelligence level hypothesis, Cornell & Grossberg (1987) in their study of families with gifted children, ages 7 to 11, were not able to find any specific variables as cause for sibling maladjustment. The results, as measured by parents' report, indicated that family members of gifted children tended to place great values on mutually supportive relationships and open expression of thoughts and feelings. The results also suggested that these families value recreational and intellectual pursuits, but not necessarily in the context of an achievement-oriented or competitive framework. These families, however, tended to show a lack of emphasis on set rules and procedures in family life.

Emotional Functioning

Researchers have examined the emotional functioning of the gifted by assessing their personality characteristics, anxiety and depression levels. The findings have varied depending on the age group being studied. Results from studies of children have generally shown minor differences between the gifted and nongifted children. Perrone, Chan & Pribyl (1985), in reaction to the assumption that gifted children are homogeneous as a group, attempted to show the idiosyncrasy of personality characteristics by assessing motivation, creativity, social awareness, social skills, and preferred learning activities

among a group of elementary pupils with high measured cognitive ability. Although they found some creative personality trait differences, their findings showed no significant difference in learning and talent personality traits of elementary students as a group. Analyses failed to distinguish any patterns among these conceptually gifted children regarding talent characteristics and preferred teaching style.

While Perrone, Chan & Pribyl's (1985) results revealed no significant difference between the gifted and nongifted children, Reynolds & Bradley (1983) found more favorable adjustment for the gifted versus nongifted sample. They examined the emotional stability of gifted children between the second and twelfth grade. On multiple measures of chronic manifest anxiety, the intellectually gifted sample consistently displayed lower levels of anxiety than their nongifted peers.

Roome & Romney (1985) attempted to assess the efficacy of two treatment programs (Progressive Muscle Relaxation-PMR; and Electromyographic-EMG Biofeedback Training) by implementing each treatment and measuring the anxiety level of gifted children, grades 6-8. A basic assumption (Yaduskey-Holahan & Holahan, 1983) was that the gifted were an anxious population who would benefit from such training. The authors specifically hypothesized that gifted children would become less tense and anxious following relaxation training, because their locus of control would move toward the internal end of the continuum.

Roome & Romney (1985) also found that the treatment group was significantly lower in state anxiety, but not trait anxiety in comparison to the untreated control group. They discovered, however, that gifted children were not any more anxious than their nongifted counterparts. Thus, although both treatments were effective in lowering the gifted's anxiety level, the gifted population did not show any more anxiety than the nongifted

group.

In relations to adjustment of gifted adolescents, Yaduskey-Holahan & Holahan (1983) hypothesized that gifted high school students under stress from multiple sources such as schooling, self and significant others' expectations would report increased anxiety and depression in relation to the increased academic pressure. Although anxiety was not found to be a major factor in gifted adolescents, depression was significantly reported by a majority of gifted students. The degree of depression, however, varied in proportion to their social relationships. For example, students with better interpersonal relationships evidenced less depression.

Similarly, Kaiser & Berndt (1985) hypothesized that gifted adolescents would exhibit more depressive symptoms than nongifted adolescents because of the added isolation and stereotyping along with the separation individuation process of adolescence. They concluded, however, that gifted adolescents did not demonstrate significantly more problems with dysphoric states than their nongifted peers.

Kodman's (1984) study on a gifted college sample suggested progressively worse adjustment with age. He investigated personality differences of 100 Summa Cum Laude college students who were matched on race, sex, and education with nongifted control subjects. He also administered the full scale Minnesota Multiphasic Personality Inventory (MMPI) to each subject. The results indicated that the high achieving males scored significantly higher (more pathological) than control subjects on six subscales: Hysteria, Psychopathic Deviate, Masculinity/Femininity, Psychasthenia, Schizophrenia and Social Inversion. For the females, statistically significant differences were found for the same subscales as for the males except for the Social Inversion Subscale. The results suggested more negative personality traits for gifted than nongifted college students.

Social Adjustment

Many researchers have assessed social adjustment in the gifted population by investigating their social skills, friendship patterns, social-emotional development and eventually, their success in careers. The studies on gifted children have focused on their social behaviors and problem solving techniques. The findings generally indicated positive social adjustment for gifted children. Janos, Marwood, & Robinson (1985) investigated the friendship patterns in gifted children (very high versus moderately high IQ students). The mean age for these children was 8. The authors hypothesized that students with very high IQ would perceive themselves as more different than those with moderately high IQ. Contrary to prediction, Janos et al. (1985) found positive social adjustment for both groups; however, a significant minority (28%) of the high-IQ children reported having fewer friends than they would like, and that being smart has made it harder for them to make friends. There were no significant difference for gender or between groups with the exception that higher IQ children tended to have older friends. Interestingly, parents often perceived their children as having no close friends. There were also age differences such as the older children (above the age of 8) being described as having no more than one close friend.

In addition to Janos et al's (1985) findings, Kitano (1985) found that gifted elementary students demonstrated appropriate social skills when adequately motivated. They entered into social interaction situations with ease, and they demonstrated appropriate social problem-solving skills. Their teachers noted, however, that these children never became a cohesive group but exhibited more leadership behavior and less following tactics.

Obrzut, Nelson & Obrzut's (1984) study, however, raised several questions as to whether or not positive social adjustment in gifted children continued through childhood. Their findings suggested that gifted children may not maintain the advantages in social

skills that they might have possessed in their elementary years.

Research on gifted adolescents echo Obrzut et al's (1984) concern as the results indicate that gifted adolescents are at risk for social maladjustment. Brody and Benbow (1986) attempted to investigate the relationship between very high abilities in verbal and quantitative areas and social adjustment in adolescence. They found that very highly gifted students in verbal ability may be more at risk to having difficulties in peer relationships. Although these students reported more internal locus of control, they also acknowledged less popularity than comparison students. The authors noted that mathematical ability correlated positively with popularity for both groups, while verbal ability correlated negatively.

While Brody et al. (1986) investigated the different types and degrees of giftedness, Kaiser & Berndt (1985) attempted to examine the contribution of stressful life events (i.e., separation from home), anger and self-reported depression in relation to loneliness and social adjustment in gifted adolescents. They found a substantial relationship between self-reported depression and loneliness. They discovered that components of the Multiscore Depression Inventory (MDI) such as helplessness, social introversion and low self-esteem were related to the loneliness. The relationship between stressful events and loneliness supported the hypothesis which emphasized the negative effects of disrupted relationships and loss of supports precipitating loneliness. These disruptions or losses in relationships limited the opportunities for development and enhancement of social skills which were required for affiliation, intimacy, and mutually supportive relationships.

Kaiser & Berndt (1985) clarified, however, that although this population demonstrated significant depression, stress and loneliness, their scores were not significantly greater than the scores of their adolescent peers. Therefore, there was not any clear evidence that

giftedness resulted in difficulties with dysphoric states. Rather, the variables of depression, stress and loneliness seemed to be associated with individual gifted adolescents who experienced difficulties with interpersonal relationships.

Yadusky-Holahan & Holahan (1983) found similar findings of depresssion (Kaiser & Berndt, 1985) while investigating gifted adolescents who lived with or without roommates. Their rationale was to isolate the effects of living alone on students under stress from multiple sources. They found that depression was reported by all gifted groups except for females with roommates. Interestingly, males with roommates and females without roommates reported significantly higher depression in later assessments.

A couple of studies have attempted to evaluate whether or not the acceleration of gifted adolescents has resulted in problems of social relationships. Pollins (cited in Benbow and Stanley, 1983) investigated the effects of acceleration on social adjustment by studying mathematically talented radical accelerants and nonaccelerants from the 7th and 8th grades. The control students were equal in high scoring achievement but were not in the accelerated programs. Personality and vocational questionnaires were administered then and five years later. Results showed no negative effects of acceleration on social-emotional development.

Similarly, Robinson & Janos (1986) evaluated the Early Entrance Program at University of Washington. They compared the academic performances of accelerants with that of their nonaccelerant counterparts, assessed moral judgment, and evaluated social and psychological adjustment. They hypothesized that accelerants would appear as well adjusted as comparison students (which consisted of peers, National Merit Scholars, and college age students). Results indicated that accelerants of the EEP were as well adjusted as all the comparison groups. Accelerants, however, were more unconventional in their social adjustment, which may explain some divergency in educational paths or the negative

views of those that regard deviations of any kind as disturbed adjustment. The authors pointed out the importance of identification, peer groups, and timely support which appeared to be a central part of EEP.

Few studies, however, have attempted to examine social adjustment in gifted adults. Lovecky (1986) used observational data from case studies to investigate social adjustment and generate hypotheses concerning gifted adults and their interaction with others. She found 5 traits with at least three of these traits existing in each person. The five traits are divergency, excitability, sensitivity, perceptivity, and entelechy (goals). She noted that there were many behavioral manifestation of these traits; some of them were positive while others were negative. For example, sensitivity could be seen as empathy; or it could be touchiness.

Lovecky (1986) also suggested that positive adjustment in these traits resulted from nurturing the self by knowing and accepting one's self, finding sources of personal power, and nurturing interpersonal relationships. She also pointed out the importance of recognizing others' talents, understanding the effects of one's own giftedness on others, and sharing with each other their gifts.

Janos (1987) also attempted to assess social adjustment in gifted adults. He performed a longitudinal follow-up on Terman's study of Youngest College Students who were matched by IQ and age. Janos found, as expected, that students in accelerated program graduated sooner than their peers, achieved and participated more in extracurricular activities than their peers. Their social adjustment seemed as well as the nongifted college population. He also found that their social adjustment, although not less, was quite divergent from other college students which supports Lovecky's (1986) case studies. Janos discovered, however, that these students did not evidence superiority on indices of

career performance which suggested that these early accelerants tended to become closer to the norm over time in terms of social adjustment.

Perceived Competence

Researchers have examined perceived competence of gifted children by assessing their self-concept, self-esteem and locus of control. The majority of studies have indicated gifted children experience adjustment problems and that these vary by gender. Janos, Fung & Robinson (1983) investigated perceived differences, self-concept and self-esteem in gifted elementary children. They hypothesized that differences were seen as burdensome or weirdness rather than positive self-regard which would result in loneliness. Results indicated that almost 40% of these children said that they thought of themselves as different. Fully half of these students stated that they were superior in some way to their agemates, but only four replied that these differences were negative. Their Self-Esteem scores, however, were significantly lower than those of children who did not state themselves as different. Furthermore, these children reported somewhat more difficulties in their relationships with agemates than those who did not perceive themselves as different.

The Self-Concept Scale also indicated that children who perceived themselves as different scored less favorably on Behavior, Intellectual & School Status, Popularity, Happiness & Satisfaction Scales. These children reported having fewer friends. Janos et al. (1983) noted, however, that the gifted group as a whole was not critically lower on self-esteem scores in comparison to a large normative sample.

Brody and Benbow (1986) were also concerned with perceived differences as a function of extremely high academic ability. They hypothesized that gifted adolescents with extremely high academic ability might experience greater adjustment difficulties than less gifted individuals because of the greater perceived differences. They also suggested

that the normal developmental stress of adolescence would generate extra stress such that the combination of perceived difference, low self-esteem and the adolescent crises would result in lower adjustment. The results revealed that both gifted groups reported more internal locus of control than the control group. No differences, however, were found between the gifted groups and the comparison group on self-esteem scores, depression scales, or in incidence of discipline problems.

While Brody & Benbow's (1986) results showed no differences in perceived competence, Loeb & Jay (1987) found differences that were a function of gender. They examined gifted children, ages 9-12, and measured variables such as gender, self-concept and locus of control. They utilized a multi-method approach which included three self-report measures of various aspects of self-concept and both mothers' and teachers' ratings. Results showed that teachers generally rated gifted students as having fewer problems in aggressiveness and depression, getting along with other children, getting along with adults, lacking confidence, and school work. However, an interaction of Classroom Placement X Gender was found in the teachers' ratings. Gifted female children tended to have a positive self-concept as an advantage over their non-gifted counterparts; however, gifted males did not enjoy such an advantage over non-gifted males. In fact, gifted males appeared lower in self-satisfaction, particularly in areas of physical strength and aggressiveness, when compared to nongifted boys. Only on the variable of Getting Along with Adults did the gifted boys score significantly better than the nongifted boys.

Loeb & Jay (1987) also discovered that mothers of gifted children less frequently reported educational or learning problems among their children than did the mothers of control children; however, there was a significant interaction effect for aggressiveness. Surprisingly, gifted boys appeared to have fewer aggressive problems while gifted girls

had slightly more. Mothers of gifted children also reported relying relatively more on verbal communication such as talking and claimed to place more emphasis on independence, while mothers of control children reported using physical communication techniques such as touching and placed greater emphasis on obedience.

Loeb & Jay (1987) found no significant main effects or interaction effect on the children's self ratings scales (Piers-Harris Self-Concept Scale, the Nowicki-Strickland Children's Locus of Control Scale, or Q-sort Task) which measured self-satisfaction. One-way analyses of gender differences, however, revealed that gifted girls tended to have higher self-concepts and more internal locus of control than the nongifted girls, while gifted males did not differ significantly from their counterparts.

While Loeb & Jay's (1987) results generally favored gifted females children, Kelley & Colangelo (1984) found the opposite effect of gender differences in gifted adolescents. They hypothesized that academic ability was positively related to both academic and social self-concepts. They compared gifted junior high students with nongifted and special educated students and found a significant difference only for males. Therefore, gifted male students in a gifted program tended to score higher in self-esteem and academic self-concept scores than nongifted male students.

Although the previous study indicated males had higher self-concept, research on the gifted college population yielded results that were similar to gifted children concerning gender differences. Tomlinson-Keasey & Smith-Winberry (1983) examined the effects of educational intervention as related to the college student's personal and intellectual status, and whether or not there were different effects as a result of gender differences. They compared three different educational experiences on personal adjustment and career aspirations. Results indicated an interaction between gender and giftedness. Gifted

females evidence superior personal adjustment compared to normal females; gifted men, however, experienced lesser adjustment on scales such as Well-Being, Social Presence, and Responsibility.

Results also revealed differences within educational groups. Gifted males who did not experience advanced education were slightly below the normal population in self-acceptance and self-esteem, while the other groups were higher than the normal population. Females who had more educational experience showed higher career aspirations than their less educated counterparts. Tomlinson-Keasey et al. (1983) suggested that greater expectation levels may be placed on men as opposed to women thereby explaining the gender differences.

Methodological Critique and Implications for Future Research

Loeb et al. (1987) identified past research problems such as the use of several definitions of giftedness, inappropriate assessment devices that mixed academic and social self-concept, failure to assess for gender differences, and the lack of objective measurements. Concerning the methodological issues in these empirical studies, the first problem involved the usage of different criteria to select gifted students. Some researchers used teachers assessments, while others used standardized tests. Though both of these criteria may be needed in assessing giftedness, the inconsistencies in using one or both criteria leave research vulnerable to not differentiating among the gifted population, high academic achievers and overachievers. These groups would probably exhibit different profiles of psychological, social and family adjustment.

Janos (1987) also suggested that the criteria for giftedness may have changed from the time Terman (1925) performed his studies. This reasoning might explain some of the incongruencies of findings between past and present research. Furthermore, the operational definition for social adjustment may also be different from past definitions. For

example, females are more career-minded in this generation compared to previous generations. Therefore, what might have been considered abnormal in the past is now considered a present norm.

A second problem was the objectivity of measurement devices. Many researchers depended heavily on self-report measures (Yaduskey-Holahan et al.,1983; Loeb et al., 1987; Pollins cited in Benbow & Stanley, 1983). Although self-report measures directly assessed the subject's perceptions and collected some valuable data, they were vulnerable to expectancy and bias. Subjects were able to report themselves in favorable or disfavorable light. For example, Janos, Fung & Robinson's (1983) results suggested that students who perceived themselves as different reported feeling superior to their agemates; yet, their self-concept and self-esteem scores, as measured by objective standardized instruments, were significantly low.

A further issue pertaining to the use of assessment devices was that some researchers used only parts of tests for assessing certain areas of interest. Cornell & Grossberg (1987) administered only a few scales of the PIC-R. Their results conflicted with other assessment devices that were fully administered. Therefore, the interpretation of results should be held tentatively since the test may not have been standardized for partial administration and interpretation.

A third methodological problem was the subject pool and sampling. Problems in the homogeneity of samples could have caused some incongruencies of findings. As some researchers have pointed out (Yaduskey-Holahan et al., 1983; Roome et al., 1985), individual personality differences might have confounded some of the results. For example, in the Yaduskey-Holahan et al. (1983) study, personality differences might have caused certain people to choose to live alone rather than with roommates. Therefore,

loneliness may not be a function of the dormitory environment, but rather because of one's personality and choice.

Another issue pertaining to sampling was selection bias and generalization problems. Janos (1987) suggested that Terman's sample may have been selectively biased since only the socially mature may have participated. For example, the gifted but underachieving students may have been overlooked by teachers and selection committees. A problem in the generalization of these findings may have resulted from researchers (Roome et al., 1985; Kaiser & Berndt, 1985) dealing with extreme populations or special accelerated programs. Caution and tentativeness should be used in applying these results to other populations or gifted programs.

Furthermore, some methodological questions were raised concerning the sample size. Several studies used small samples to draw their conclusions. Admittedly, some researchers would be hard pressed to find a group of extremely high intelligent children in one setting, but caution should be taken in interpretation and generalization of results. Ballering & Koch's (1984) study consisted of a small sample size using volunteer families for their study. Janos (1987) also used a small sample (N=19) in assessing whether or not Terman's benefits were enduring over time. Special caution should be taken since small samples and significance levels statistically favored the direction of the hypothesis in this study.

A fourth problem involved the research design. Some studies (Kitano, 1985; Lovecky, 1986) used naturalistic observations and correlations which limited their findings from interpreting cause and effect statements. Some variables outside of aptitude and achievement were difficult to control since researchers were unable to assign people randomly to the gifted and nongifted groups. The fact that some research problems were

new also warranted pilot studies such as Lovecky's (1986) case studies rather than full experimental designs.

Other studies failed to control for important subject variables such as gender differences. This variable was found to be influential in many studies. Results that showed no significant difference between the gifted and control groups may have yielded different findings had the experimenter controlled for gender differences.

On the other hand, the empirical literature consisted of some strong points which should be mentioned and continued in future studies. Several researchers used multi-standardized instruments for assessment which yielded several measures of adjustment. For example, Cornell & Grossberg (1987) administered the Family Environment Scales (FES), Behavioral Academic Self-Esteem scale (BASE), Revised Children's Manifest Anxiety Scale (RCMAS) and the Coopersmith Self-Esteem Inventory (CSEI). Janos, Marwood and Robinson (1985) used the MMPI, California Personality Inventory (CPI), Tennessee Self-Concept Scale, Inventory of Peer and Parent Attachments. The multiple measures allowed experimenters to cross validate their findings and place more confidence in the results. Several other studies utilized a strong research design. For example, Tomlinson-Keasey et al (1983) included large samples in a covert study.

The implications for future studies are that researchers should consider further investigation of age, gender, and ability levels as influencing variables. For example, a breakdown in age revealed the findings that superior adjustment in elementary school had a tendency to vanish by adolescence. Whether or not this is because of the developmental age period remains a question to be answered. Another age factor is the scarcity of literature concerning the gifted adults. There is little research done on this age group, and much of literature consists of case studies or naturalistic observational studies. This

scarcity in research indicates that there are few longitudinal studies which are desperately needed to assess the enduring effects of giftedness on adjustment.

Although gender was a subject variable, it influenced the results and made significant contributions to the understanding of giftedness and adjustment in several studies. Presently, it appears that psychological and social adjustment varies depending on the interaction of gender and age. Gifted girls showed superior adjustment while gifted boys evidenced below average adjustment. These findings were reversed at the adolescent age. These results suggests that other variables such as sex-roles and expectations may be involved in social adjustment.

The assessment of abilities also needs to be better controlled in research. Many studies failed to differentiate among the gifted, high academic achievers and overachievers. In a computer search for overachievers, only 2 out of 15 studies differentiated between gifted and overachievers. Many authors used these terms interchangeably. One of the two studies on overachievers operationally defined this group as scoring two standard deviations higher on achievement test than aptitude test (Nakamura, 1968). These children achieved the same academically, but they did not possess the same abilities. Therefore, the inconsistencies in the definition of giftedness may have caused the incongruencies in the results.

A final suggestion concerns the use of appropriate comparison groups. Some researchers compared the gifted with underachievers; others compared gifted people to biologically older people. For example, gifted students who entered college early were compared to college students on social dimensions. A better comparison group would have included their peers. Kulik & Kulik (1984) suggested comparing gifted with both the same and different age groups. They also recommended using more non-intellective variables in assessing adjustment.

Summary of Findings

The literature on Conduct revealed no significant difference between gifted and nongifted children. The research on Family Adjustment also indicated that family functioning is healthy if not healthier for the gifted child than for the nongifted siblings. The family structure and the verbal, more permissive parenting style appeared to benefit the gifted child by recognizing his or her giftedness and promoting creativity. At the same time, this recognition of the gifted child might be detrimental to the sibling especially if designations or labels of gifted versus nongifted were operative in the family. Although the gifted child demonstrated good family adjustment, the findings did not support the protagonists' position that the gifted showed superior adjustment.

The literature on emotional functioning indicated that there were generally no significant differences between gifted and nongifted children on depression, anxiety, or personality characteristics. During adolescence, however, there was some evidence of depression within gifted high schoolers. This finding seemed to vary in proportion to their social relationships. Only during the college years did some negative personality traits such as anger, anxiety and social isolation began to appear as indicated by the Kodman study (1984). This research suggests that gifted children may be at risk for emotional problems during certain developmental stages.

Studies on social adjustment indicated that gifted children possessed adequate social skills, but were at risk for problems in peer relationships. Gifted children tended to be less cohesive in groups since many of them desired leadership roles. Research also indicated the disruption of relationships, low self-esteem and high social introversion during adolescence could result in loneliness. Evaluative studies on several accelerated programs suggested that these programs were helpful for gifted adolescents when adequate peer

groups and timely support were implemented. The research on social adjustment for gifted adults gave evidence that the advantages in social skills from earlier years were not maintained through adulthood. Nongifted adults demonstrated equal social adjustment by the time they entered their careers.

The findings on perceived competence are mixed. Gifted children generally demonstrated good adjustment in elementary school; however, some individuals were at risk for maladjustment if they perceived themselves as different from nongifted children. While perceived differences was a risk in children, it did not influence the adjustment of gifted adolescents. Extremely high academic ability was related to higher locus of control. Another interesting finding was that there were gender by age interactions in perceived competence. Gifted girls enjoyed better adjustment on self-esteem than gifted boys during their elementary years; however, gifted boys experienced higher self-esteem during adolescence. In adulthood, the findings were similar to the results from gifted children. Gifted women showed better adjustment, while gifted men experienced less adjustment. Several authors offered sex-role expectations as explanations to these findings.

Practical Implications

The research presented in this review concerning adjustment of gifted children has practical implications for parents, teachers, and administrators/legislators. The implications to parents and teachers are threefold. First, parents and teachers need to insure their own and gifted children's expectation levels are realistic. In their desire to see gifted children succeed, parents and teachers may set their expectations too high. For example, teachers may assign gifted students too much schoolwork or an overly difficult assignment, and parents may require that these assignments be completed to perfection. These children are also vulnerable to setting their goals too high in order to meet parental and teacher

expectations. Expectation levels that are too high may result in low self-concept and self-esteem. Therefore, parents and teachers can help gifted children set up appropriate goals and expectations resulting in better adjustment.

Secondly, parents and teachers should attend to gifted children's social needs. Gifted children may have a tendency to perceive themselves as different due to their superior mental abilities and others' social stereotyping. For example, gifted children may be stigmatized by nongifted peers for being in the gifted program. Although gifted children often label these differences as "superior", research suggests that they experience low self-concept and self-esteem. Parents and teachers can be sensitive and help these children work through stereotypes and perceived differences. They can check with them periodically concerning their peer relationships. Parents and teachers may also want to consider gifted children's self-perception before enrolling them in advanced classes. They may want to involve gifted children with other nongifted children in extra-curricular activities such as sports or school clubs to compensate for time spent away from nongifted peers and thereby reduce the feelings of differentiation and isolation.

Adolescence brings with it extra social pressures and demands. Gifted adolescents need support and adequate peer relationships to make healthy psychological and social adjustment. Therefore, parents and teachers can help gifted adolescents by allowing them adequate time for social activities. Too much homework and pressure to study may results in social isolation and poor interpersonal relationships. Although gifted students are able to finish their work, they may sacrifice needed time to spend with their peers.

Furthermore, parents may want to closely evaluate gifted programs that schools are offering to assess whether or not their adolescents have adequate peer support. Teachers can also take precautions not to disrupt peer relationships such as assigning gifted

adolescents to special classrooms for most of the school day. Mainstreaming these children to classrooms with their nongifted peers would reduce the likelihood of social disruption.

Thirdly, parents and teachers need to utilize more verbal communication in their discipline and encourage independency. Empirical research suggests that parents and teachers foster gifted children's special abilities through their parenting and teaching styles. Gifted children , according to findings from behavioral measures, appear to show no significant behavioral problems as a result of these methods.

Parents and teachers may also want to emphasize consistency in their parenting and teaching styles. Research shows that parental inconsistencies in their view of children's giftedness is related to lower adjustment. For example, a mother may foster independency through verbal communication, while the father, who does not view his children as gifted, may thwart independency by using more physical styles of parenting and focusing on behavior. In the same manner, teachers may want to consult each other concerning the best and most consistent method in teaching gifted children. Often, these children attend many classes with different teachers and may receive various instructions. Therefore, they may excel in one class and lack in another.

In addition to these implications for parents and teachers, there are specific implications for parents concerning family life. While gifted children often experience positive family adjustment, nongifted siblings appear to experience maladjustment in their relationships with mother and gifted sibling. Although it is important for both parents to recognize gifted children's special abilities, the operative use of labels in the family is detrimental to nongifted siblings. Research indicates that the closer in ability nongifted siblings are to gifted children, the poorer the relationship between the siblings. This finding suggests that positive recognition of gifted children may result in jealousy from nongifted siblings. Therefore, parents should recognize gifted children's special abilities, but should also make

an extra effort not to place values on their children based on their abilities.

Another problem for parents that affects their consistency in the family is that gifted and nongifted children appear to react differently to varying disciplining styles. Gifted children may need only verbal prompts to follow instruction, whereas nongifted siblings may need more explicit direction and possibly physical assistance. Thus, parents may struggle with the difficult task of raising children with different abilities. On one hand, they desire to match their parenting styles to the individual needs of their children; but on the other hand, they struggle with the appearance of favoritism because of different disciplining techniques.

There are primarily two implications for administrators/legislators. First, they need to be concerned with proper assessment of gifted individuals. Not only should intelligence and achievement be considered, but also social and emotional functioning. A broader definition of giftedness is recommended to differentiate among overachievers, high academic achievers and gifted population, and to assess the gifted's individual needs. For example, research revealed a negative relationship between high verbal ability and adjustment while indicating a positive relationship between high mathematical ability and adjustment. Thus, comprehensive assessments of giftedness may result in more accurate identification and educational planning for gifted children.

Secondly, administrators/legislators should be aware that gifted students who do not participate in gifted programs tend to score lower on adjustment scales. Research on several accelerated programs showed that these programs facilitated optimal development. The results supported gifted programs and suggested a need for funding future research to evaluate the efficacy of other gifted programs. Specifically, legislators should be informed of what components in gifted programs are effective if they are to mandate these programs in state educational systems. For example, an evaluation of the Early Entrance Program

(EEP) at the University of Washington indicated positive adjustment as a result of timely support and peer group counseling.

In summary, this review was motivated by the debate on the relationship of giftedness and psychological adjustment. Protagonists say that gifted children demonstrate superior adjustment and coping skills. Antagonists claim that those children experience psychological maladjustment and low self-esteem. Empirical research states that neither the protagonists nor the antagonists are entirely correct and that the relationship between giftedness and psychological adjustment is more complex than these assertions imply. However, research demonstrates enough concern over gifted children's adjustment in perceived competence and social development that resources should be allocated. Therefore, administrators/legislators can help facilitate the development of gifted people as a national resource by mandating legislation for gifted children similar to that for handicapped children (i.e., Public Law 94-142).

The results of the empirical literature suggest that the assessment of adjustment in gifted population is a complex problem. To date, our knowledge indicates research on gifted people is in its earliest stages and there is much work to do. Many variables such as age, gender, various types of accelerated programs, social relationships, family structure and self-perceptions need further investigation. The findings indicate that the gifted population as a whole do not experience superior or poorer adjustment than the nongifted population, but the results suggest that gifted individuals may be at risk for certain types of problems in the areas of social isolation, low self-concept and self-esteem. Therefore, we need to attend to the concerns posed by the antagonists to develop optimally one of our nation's riches resources- our gifted children.

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